Listing of Claims

1. (Currently Amended) An article comprising an ultrasonically bonded laminated structure, the laminated structure comprising a first material, a second material, and an adhesive composition, the adhesive composition comprising an atactic polymer and an isotactic polymer, the atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,000 and the isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000, wherein the first material and the second material are dissimilar ~~or non-bondable~~ materials and are ultrasonically bonded together.

2. (Original) The article as set forth in claim 1 wherein the degree of crystallinity of the atactic polymer is less than about 15%.

3. (Original) The article as set forth in claim 1 wherein the degree of crystallinity of the isotactic polymer is at least about 60%.

4. (Original) The article as set forth in claim 1 wherein the number-average molecular weight of the atactic polymer is

between about 3,000 and about 100,000.

5. (Original) The article as set forth in claim 1 wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

6. (Original) The article as set forth in claim 1 wherein the adhesive composition is hot-melt processable at less than about 400 degrees Fahrenheit.

7. (Original) The article as set forth in claim 1 wherein the adhesive composition is hot-melt processable at less than about 375 degrees Fahrenheit.

8. (Original) The article as set forth in claim 1 wherein the adhesive composition has a melt index of from about 100 to about 2000 grams per 10 minutes.

9. (Original) The article as set forth in claim 1 wherein the adhesive composition comprises from about 40 to about 90 weight percent of the atactic polymer and from about 5 to about 30 weight percent of the isotactic polymer.

10. (Original) The article as set forth in claim 1 wherein the atactic polymer comprises atactic polypropylene.

11. (Withdrawn) The article as set forth in claim 1

wherein the atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

12. (Withdrawn) The article as set forth in claim 11 wherein the low density polyethylene has a density in the range of 0.910 to 0.935 grams per cubic centimeter.

13. (Original) The article as set forth in claim 1 wherein the isotactic polymer comprises isotactic polypropylene.

14. (Withdrawn) The article as set forth in claim 1 wherein the isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

15. (Withdrawn) The article as set forth in claim 14 wherein the high density polyethylene has a density in the range of 0.935 to 0.980 grams per cubic centimeter.

16. (Original) The article as set forth in claim 1 wherein the first material comprises polyethylene and the second material comprises polypropylene.

Claims 17-25 (Cancelled).

26. (Original) The article as set forth in claim 1 wherein the adhesive composition additionally comprises a further component selected from the group consisting of tackifiers, antioxidants, color pigments, viscosity modifiers, fillers, and polymeric compatibilizers.

27. (Withdrawn) A process for manufacturing an article comprising an ultrasonically bonded laminated structure, the process comprising:

providing a first substrate comprising an adhesive composition, the adhesive composition comprising an atactic polymer and an isotactic polymer, the atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,000 and the isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000;

providing a second substrate dissimilar or non-bondable with the first substrate; and

ultrasonically bonding the first substrate to the second substrate.

28. (Withdrawn) The process as set forth in claim 27

wherein the degree of crystallinity of the atactic polymer is less than about 15%.

29. (Withdrawn) The process as set forth in claim 27 wherein the degree of crystallinity of the isotactic polymer is at least about 60%.

30. (Withdrawn) The process as set forth in claim 27 wherein the number-average molecular weight of the atactic polymer is between about 3,000 and about 100,000.

31. (Withdrawn) The process as set forth in claim 27 wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

32. (Withdrawn) The process as set forth in claim 27 wherein the adhesive composition is hot-melt processable at less than about 400 degrees Fahrenheit.

33. (Withdrawn) The process as set forth in claim 27 wherein the adhesive composition is hot-melt processable at less than about 375 degrees Fahrenheit.

34. (Withdrawn) The process as set forth in claim 27 wherein the adhesive composition has a melt index of from about 100 to about 2000 grams per 10 minutes.

35. (Withdrawn) The process as set forth in claim 27 wherein the adhesive composition comprises from about 40 to about 90 weight percent of the atactic polymer and from about 5 to about 30 weight percent of the isotactic polymer.

36. (Withdrawn) The process as set forth in claim 27 wherein the atactic polymer comprises atactic polypropylene.

37. (Withdrawn) The process as set forth in claim 27 wherein the atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

38. (Withdrawn) The process as set forth in claim 37 wherein the low density polyethylene has a density in the range of 0.910 to 0.935 grams per cubic centimeter.

39. (Withdrawn) The process as set forth in claim 27 wherein the isotactic polymer comprises isotactic polypropylene.

40. (Withdrawn) The process as set forth in claim 27 wherein the isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

41. (Withdrawn) The process as set forth in claim 40 wherein the high density polyethylene has a density in the range of 0.935 to 0.980 grams per cubic centimeter.

42. (Withdrawn) The process as set forth in claim 27 wherein the first material comprises polyethylene and the second material comprises polypropylene.

Claims 43-51 (Cancelled).

52. (Withdrawn) The process as set forth in claim 27 wherein the adhesive composition additionally comprises a further component selected from the group consisting of tackifiers, antioxidants, viscosity modifiers, color pigments, fillers, and polymeric compatibilizers.

53. (Withdrawn) A process for manufacturing an article comprising an ultrasonically bonded laminated structure, the process comprising:

providing a first substrate;

providing a second substrate which is dissimilar or non-bondable with the first substrate;

introducing an adhesive composition onto the first or second substrate and contacting the first and second substrate together to form an adhesive bond therebetween, the adhesive

composition comprising an atactic polymer and an isotactic polymer, the atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,000 and the isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000; and

ultrasonically bonding the first substrate to the second substrate.

54. (Withdrawn) The process as set forth in claim 53 wherein the degree of crystallinity of the atactic polymer is less than about 15%.

55. (Withdrawn) The process as set forth in claim 53 wherein the degree of crystallinity of the isotactic polymer is at least about 60%.

56. (Withdrawn) The process as set forth in claim 53 wherein the number-average molecular weight of the atactic polymer is between about 3,000 and about 100,000.

57. (Withdrawn) The process as set forth in claim 53 wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

58. (Withdrawn) The process as set forth in claim 53 wherein the adhesive composition is hot-melt processable at less than about 400 degrees Fahrenheit.

59. (Withdrawn) The process as set forth in claim 53 wherein the adhesive composition is hot-melt processable at less than about 375 degrees Fahrenheit.

60. (Withdrawn) The process as set forth in claim 53 wherein the adhesive composition has a melt index of from about 100 to about 2000 grams per 10 minutes.

61. (Withdrawn) The process as set forth in claim 53 wherein the adhesive composition comprises from about 40 to about 90 weight percent of the atactic polymer and from about 5 to about 30 weight percent of the isotactic polymer.

62. (Withdrawn) The process as set forth in claim 53 wherein the atactic polymer comprises atactic polypropylene.

63. (Withdrawn) The process as set forth in claim 53 wherein the atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

64. (Withdrawn) The process as set forth in claim 63

wherein the low density polyethylene has a density in the range of 0.910 to 0.935 grams per cubic centimeter.

65. (Withdrawn) The process as set forth in claim 53 wherein the isotactic polymer comprises isotactic polypropylene.

66. (Withdrawn) The process as set forth in claim 53 wherein the isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

67. (Withdrawn) The process as set forth in claim 66 wherein the high density polyethylene has a density in the range of 0.935 to 0.980 grams per cubic centimeter.

68. (Withdrawn) The process as set forth in claim 53 wherein the first material comprises polyethylene and the second material comprises polypropylene.

Claims 69-77 (Cancelled).

78. (Withdrawn) The process as set forth in claim 53 wherein the adhesive composition additionally comprises a further component selected from the group consisting of tackifiers, antioxidants, viscosity modifiers, color pigments, fillers, and polymeric compatibilizers.

79. (Currently Amended) An article comprising an ultrasonically bonded laminated structure, the laminated structure comprising a first material, a second material, and an adhesive composition, the adhesive composition comprising an atactic polymer and an isotactic polymer, the atactic polymer having a degree of crystallinity of less than about 20% and a number-average molecular weight of from about 1,000 to about 300,000 and the isotactic polymer having a degree of crystallinity of at least about 40% and a number-average molecular weight of from about 3,000 to about 200,000, wherein the first material and the second material are dissimilar ~~or non-bondable~~ materials and are ultrasonically bonded together, and wherein the adhesive composition has an open time of less than about 10 minutes.

80. (Original) The article as set forth in claim 79 wherein the degree of crystallinity of the atactic polymer is less than about 15%.

81. (Original) The article as set forth in claim 79 wherein the degree of crystallinity of the isotactic polymer is at least about 60%.

82. (Original) The article as set forth in claim 79 wherein the number-average molecular weight of the atactic

polymer is between about 3,000 and about 100,000.

83. (Original) The article as set forth in claim 79 wherein the number-average molecular weight of the isotactic polymer is between about 10,000 and about 100,000.

84. (Original) The article as set forth in claim 79 wherein the adhesive composition is hot-melt processable at less than about 400 degrees Fahrenheit.

85. (Original) The article as set forth in claim 79 wherein the adhesive composition is hot-melt processable at less than about 375 degrees Fahrenheit.

86. (Original) The article as set forth in claim 79 wherein the adhesive composition has a melt index of from about 100 to about 2000 grams per 10 minutes.

87. (Original) The article as set forth in claim 79 wherein the adhesive composition comprises from about 40 to about 90 weight percent of the atactic polymer and from about 5 to about 30 weight percent of the isotactic polymer.

88. (Original) The article as set forth in claim 79 wherein the atactic polymer comprises atactic polypropylene.

89. (Withdrawn) The article as set forth in claim 79 wherein the atactic polymer is selected from the group consisting of low density polyethylene, atactic polystyrene, atactic polybutene, amorphous polyolefin copolymer, and combinations thereof.

90. (Withdrawn) The article as set forth in claim 89 wherein the low density polyethylene has a density in the range of 0.910 to 0.935 grams per cubic centimeter.

91. (Original) The article as set forth in claim 79 wherein the isotactic polymer comprises isotactic polypropylene.

92. (Withdrawn) The article as set forth in claim 79 wherein the isotactic polymer is selected from the group consisting of high density polyethylene, isotactic polystyrene, isotactic polybutene, and combinations thereof.

93. (Withdrawn) The article as set forth in claim 92 wherein the high density polyethylene has a density in the range of 0.935 to 0.980 grams per cubic centimeter.

94. (Original) The article as set forth in claim 79 wherein the first material comprises polyethylene and the second material comprises polypropylene.

Claims 95-103 (Cancelled).

104. (Original) The article as set forth in claim 79 wherein the adhesive composition additionally comprises a further component selected from the group consisting of tackifiers, antioxidants, viscosity modifiers, color pigments, fillers, and polymeric compatibilizers.